

STATE OF INDIANA  
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
AUTHORIZATION TO DISCHARGE UNDER THE  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et seq., the "Act"), Title 13 of the Indiana Code, and regulations adopted by the Water Pollution Control Board, the Indiana Department of Environmental Management (IDEM) is issuing this permit to

BP PRODUCTS NORTH AMERICA, INC.  
WHITING REFINERY

is authorized to discharge from a petroleum refinery located at 2815 Indianapolis Blvd., Whiting Indiana to receiving waters named Lake Michigan and the Lake George Branch of the Indiana Harbor Ship Canal in accordance with effluent limitations, monitoring requirements, and other conditions set forth in Parts I, II, III and IV hereof. This permit may be revoked for the nonpayment of applicable fees in accordance with IC 13-18-20.

Effective Date: \_\_\_\_\_

Expiration Date: \_\_\_\_\_

In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as are required by the Indiana Department of Environmental Management no later than 180 days prior to the date of expiration.

Signed on \_\_\_\_\_ for the Indiana Department of Environmental Management.

\_\_\_\_\_  
Paul Higginbotham, Chief  
Permits Branch  
Office of Water Quality

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

- During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge from Outfall 005 (The discharge from the diffuser located in Lake Michigan). The discharge is limited to treated process wastewater from normal refinery operations including maintenance, turnaround activities, excavation, dewatering, construction activities, tank cleaning, and temporary flows from upsets or downtime and from Ineos and NiSource Whiting Clean Energy, recovered ground water and most of the storm water from the site. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into Lake Michigan. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS OUTFALL 005 [1][3][8]

Table 005-1

Parameter	Quantity or Loading		Units	Quality or Concentration		Units	Monitoring Measurement Frequency	Requirements Sample Type
	Monthly Average	Daily Maximum		Monthly Average	Daily Maximum			
<b>Flow</b>	Report	Report	MGD	----	----	----	Daily	24-Hr. Total
<b>BOD<sub>5</sub></b>	4,161	8,164	lbs/day	Report	Report	mg/l	1 x Weekly	24 Hr. Comp.
<b>TSS</b>	3,646	5,694	lbs/day	Report	Report	mg/l	2 x Weekly	24 Hr. Comp.
<b>COD</b>	30,323	58,427	lbs/day	Report	Report	mg/l	1 x Weekly	24 Hr. Comp.
<b>Oil and Grease</b>	1,368	2,600	lbs/day	Report	Report	mg/l	1 x Weekly	Grab
<b>Phosphorus</b>	Report	Report	lbs/day	1.0	Report	mg/l	1 x Weekly	24 Hr. Comp.
<b>Phenolics (4AAP)</b>	20.33	73.01	lbs/day	Report	Report	mg/l	1 x Weekly	Grab
<b>Ammonia as N</b>	1,030	2,060	lbs/day	Report	Report	mg/l	5 x Weekly	24 Hr. Comp.
<b>Sulfide</b>	23.1	51.4	lbs/day	Report	Report	mg/l	1 x Weekly	24 Hr. Comp.
<b>Total Chromium [2]</b>	23.9	68.53	lbs/day	Report	Report	mg/l	1 x Weekly	24 Hr. Comp.
<b>Hex. Chromium [4]</b>	2.01	4.48	lbs/day	Report	Report	mg/l	1 x Weekly	24-Hr. Comp.
<b>Vanadium [2]</b>	50	100	lbs/day	0.28	0.56	mg/l	1 x Monthly	24-Hr. Comp.
<b>Mercury [5][7]</b>								
<b>Final Limits</b>	0.0002300022	0.0005700053	lbs/day	1.3	3.2	ng/l	6 x Yearly	Grab
<b>Interim Variance Limits</b>			Annual Average = 23.1		Report	ng/l	6 x Yearly	Grab
<b>Whole Effluent Toxicity [6]</b>								
<b>Chronic</b>	-	-	-	Report	-	TUc	2 x Yearly	

Table 005-2

<u>Parameter</u>	<u>Quality or Concentration</u>		<u>Units</u>	<u>Monitoring</u>	<u>Requirements</u>
	<u>Daily</u>	<u>Daily</u>		<u>Measurement</u>	<u>Sample</u>
pH	<u>Minimum</u>	<u>Maximum</u>	s.u.	<u>Frequency</u>	<u>Type</u>
	6.0	9.0		3 x Weekly	Grab

- [1] In the event that changes are to be made in the use of water treatment additives including dosage rates contributing to Outfall 005 that are greater than the dosage rate identified in the permit application, the permittee shall notify the Indiana Department of Environmental Management as required in Part II.C.1 of this permit. The use of any new or changed water treatment additives or dosage rates shall not cause the discharge from any permitted outfall to exhibit chronic or acute toxicity. Acute and chronic aquatic toxicity information must be provided with any notification regarding any new or changed water treatment additives or dosage rates.
- [2] The permittee shall measure and report the identified metals as total recoverable metals. When One year after the Sulfur Recovery Unit (SRU) Beavon Stretford Solution blowdown (vanadium-based technology) is has been replaced with the non-vanadium based Shell Claus Off-gas Treatment (SCOT), the permittee may request, in writing, a review of the effluent limits and monitoring requirement for Total Vanadium at Outfall 005.
- [3] See Part I.B. of the permit for the Narrative Water Quality Standards.
- [4] Hexavalent Chromium shall be measured and reported as dissolved metal. If test results from the analysis performed for total chromium reveal that the concentration is less than the limitations for hexavalent chromium, then the test for hexavalent chromium may be eliminated for that day and reported as the same concentration as total chromium for that day.
- [5] Mercury monitoring shall be conducted bi-monthly in the months of February, April, June, August, October, and December using EPA Test Method 1631, Revision E. If EPA Test Method 1631, Revision E is further revised during the term of this permit, the permittee and/or its contract laboratory is required to utilize the most current version of the method as soon as possible after approval by EPA but no later than the second monitoring event after the revision. The following EPA test methods and/or Standard Methods and associated LODs and LOQs are to be used in the analysis of the effluent samples. Alternative methods may be used if first approved by IDEM.

<u>Parameter</u>	<u>EPA Method</u>	<u>LOD</u>	<u>LOQ</u>
Mercury	1631, Revision E	0.2 ng/l	0.5 ng/l

- [6] The permittee shall conduct Whole Effluent Toxicity tests in accordance with Part I.G. of this permit.
- [7] For the term of this permit, the permittee is subject to the variance discharge limit developed in accordance with 327 IAC 5-3.5-8. The permittee applied for, and received, a variance from the water quality criterion used to establish the referenced mercury WQBEL under 327 IAC 5-3.5. Compliance with the interim discharge limit will demonstrate compliance with mercury discharge

limitations of this permit for Outfall 005. **The permittee shall report both a daily maximum value and an annual average for Mercury.** The annual average value shall be calculated as the average of daily maximum values from the most recent twelve-month period. Compliance with the variance discharge limit for Mercury will be achieved when the annual average value is less than the interim discharge limit. Mercury monitoring shall be conducted bi-monthly in the months of February, April, June, August, October, and December of each year for the term of the permit using EPA Test Method 1631, Revision E. If EPA Test Method 1631, Revision E is further revised during the term of this permit, the permittee and/or its contract laboratory is required to utilize the most current version of the method as soon as possible after approval by EPA but no later than the second monitoring event after the revision. The calculating and reporting of the annual average value for mercury is only required for the months when samples are taken for mercury. See Part IV of the permit for the Mercury Pollution Prevention Management Plan Requirements.

- [8] The weekly sampling period is from Monday through Sunday.

32. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge from Outfall 002. The discharge is limited to non-contact cooling water. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into Lake Michigan. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS OUTFALL 002 [1][3][2]

Table 002-1

Parameter	Quantity or Loading		Units	Quality or Concentration		Units	Monitoring Measurement Frequency	Requirements Sample Type
	Monthly Average	Daily Maximum		Monthly Average	Daily Maximum			
Flow	Report	Report	MGD	----	----	----	Daily	24-Hr. Total
TOC (Intake)	-	-	-	Report	Report	mg/l	1 x Yearly	Grab
TOC (Discharge)	-	-	-	Report	Report	mg/l	1 x Yearly	Grab
TOC (Net)	-	-	-	Report	5.0 [5]	mg/l	1 x Yearly	Grab
Total Residual Chlorine [6][7]	20.0	60.0	lbs/day	0.01	0.02	mg/l	1 x Weekly	Grab
Oil & Grease	-	-	-	Report	5.0	mg/l	1 x Monthly	Grab
Temperature [4]								
Intake	-	-	-	Report	Report	F°/Hour	5 x Weekly	Hourly
Discharge	-	-	-	Report	Report	F°/Hour	5 x Weekly	Hourly
Net (daily ave.)	-	-	-	1.7 x 10 <sup>9</sup>	2.0 x 10 <sup>9</sup>	BTU/Hour	5 x Weekly	Hourly

Table 002-2

Parameter	Quality or Concentration		Units	Monitoring Measurement Frequency	Requirements Sample Type
	Daily Minimum	Daily Maximum			
pH	6.0	9.0	s.u.	3 x Weekly	Grab

- [1] In the event that changes are to be made in the use of water treatment additives including dosage rates contributing to Outfall 002 that are greater than the dosage rate identified in the permit application, the permittee shall notify the Indiana Department of Environmental Management as required in Part II.C.1 of this permit. The use of any new or changed water treatment additives or dosage rates shall not cause the discharge from any permitted outfall to exhibit chronic or acute toxicity. Acute and chronic aquatic toxicity information must be provided with any notification regarding any new or changed water treatment additives or dosage rates.
- [2] The weekly sampling period is from Monday through Sunday.
- [3] See Part I.B. of the permit for the Narrative Water Quality Standards.
- [4] The net temperature shall be calculated by subtracting the temperature value of the intake water from the temperature value of the gross discharge every hour converting to BTU/hr by multiplying the temperature difference by the discharge flow and the appropriate conversion factor and averaging those values over the 24 hours of each day when sampling occurs.

- [5] Total Organic Carbon (TOC) shall be limited on a net basis. The net result shall be calculated by subtracting the concentration value of the intake water from the concentration value of the discharge from Outfall 002.
- [6] The monthly average water quality based effluent limit (WQBEL) for total residual chlorine is less than the limit of quantitation (LOQ) as defined below. Compliance with the monthly average limit will be demonstrated if the monthly average effluent level is less than or equal to the monthly average WQBEL. Daily effluent values that are less than the LOQ, used to determine the monthly average effluent levels less than the LOQ, may be assigned a value of zero (0), unless, after considering the number of monitoring results that are greater than the limit of detection (LOD), and applying appropriate statistical techniques, a value other than zero (0) is warranted.
- [7] The daily maximum WQBEL for total residual chlorine is equal to the LOD but less than the LOQ specified in the permit. Compliance with the daily maximum limit will be demonstrated if the observed effluent concentrations are less than the LOQ.

Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 60.0 lbs/day.

<u>Parameter</u>	<u>Test Method</u>	<u>LOD</u>	<u>LOQ</u>
Chlorine	4500-Cl-D,E or 4500-Cl-G	0.02 mg/l	0.06 mg/l

#### Case-Specific LOD/LOQ

The permittee may determine a case-specific LOD or LOQ using the analytical method specified above, or any other test method which is approved by the Commissioner prior to use. The LOD shall be derived by the procedure specified for method detection limits contained in 40 CFR Part 136, Appendix B, and the LOQ shall be set equal to 3.18 times the LOD. Other methods may be used if first approved by the Commissioner.

4- 3During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge from Outfalls 003 and 004. The discharge is limited to "stormwater associated with industrial activity from the J&L and Lake George areas of the refinery. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the Lake George Branch of the Indiana Harbor Ship Canal. Such discharge shall be limited and monitored by the permittee as specified below:

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DISCHARGE LIMITATIONS OUTFALLS 003 and 004 [1][3][4]  
Table 003-1

<u>Parameter</u>	<u>Quantity or Loading</u>		<u>Units</u>	<u>Quality or Concentration</u>		<u>Units</u>	<u>Monitoring Measurement Frequency</u>	<u>Requirements Sample Type</u>
	<u>Monthly Average</u>	<u>Daily Maximum</u>		<u>Monthly Average</u>	<u>Daily Maximum</u>			
Flow	Report	Report	MGD	----	----	----	Daily	24-Hr. Total
TOC	-	-	-	Report	110	mg/l	1 x Weekly[2]	Grab
Oil & Grease	-	-	-	Report	15	mg/l	1 x Weekly[2]	Grab

Table 003-2

<u>Parameter</u>	<u>Quality or Concentration</u>		<u>Units</u>	<u>Monitoring Measurement Frequency</u>	<u>Requirements Sample Type</u>
	<u>Daily Minimum</u>	<u>Daily Maximum</u>			
pH	6.0	9.0	s.u.	1 x Weekly[2]	Grab

- [1] See Part I.B. of the permit for the Narrative Water Quality Standards.
- [2] The permittee shall sample TOC, Oil & Grease, and pH during the first discharge of each week. If there is no discharge during any particular week, then the permittee shall report No Discharge for that week on the monthly DMR.
- [3] The Storm Water Pollution Prevention Plan (SWP3) requirements can be found in Part I.D. and I.E. of this permit.
- [4] The weekly sampling period is from Monday through Sunday.

5. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is not authorized to discharge from Outfall 001 unless the discharge is deemed necessary by IDEM to perform emergency repairs or replacements to the diffuser system. The permittee shall provide at least 10-day advance written notice to IDEM if it anticipates the need to discharge from Outfall 001. After IDEM has approved a temporary discharge from Outfall 001, the discharge from Outfall 001 is limited to treated process wastewater from normal refinery operations including maintenance, turnaround activities, excavation, dewatering, construction activities, tank cleaning, and temporary flows from upsets or downtime and from Ineos and NiSource Whiting Clean Energy, recovered ground water and most of the storm water from the site. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into Lake Michigan. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS OUTFALL 001 [2][6]

Table 001-1

Parameter	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
	Monthly	Daily		Monthly	Daily		Measurement	Sample
	Average	Maximum	Units	Average	Maximum	Units	Frequency	Type
<b>Flow</b>	Report	Report	MGD				Daily	24 Hr. Total
<b>TBOD<sub>5</sub></b>	4,161	8,164	lbs/day	Report	Report	mg/l	1 x Weekly	24 Hr. Comp.
<b>TSS</b>	3,646	5,694	lbs/day	Report	Report	mg/l	2 x Weekly	24 Hr. Comp.
<b>COD</b>	30,323	58,427	lbs/day	Report	Report	mg/l	1 x Weekly	24 Hr. Comp.
<b>Oil and Grease</b>	1,368	2,600	lbs/day	Report	Report	mg/l	1 x Weekly	Grab
<b>Phosphorus</b>	Report	Report	lbs/day	1.0	Report	mg/l	1 x Weekly	24 Hr. Comp.
<b>Phenolics (4AAP)</b>	20.33	73.01	lbs/day	Report	Report	mg/l	1 x Weekly	Grab
<b>Ammonia as N</b>	1,030	2,060	lbs/day	Report	Report	mg/l	5 x Weekly	24 Hr. Comp.
<b>Sulfide</b>	23.1	51.4	lbs/day	Report	Report	mg/l	1 x Weekly	24 Hr. Comp.
<b>Total Chromium [1]</b>	23.9	68.53	lbs/day	Report	Report	mg/l	1 x Weekly	24 Hr. Comp.
<b>Hex. Chromium [3]</b>	2.01	4.48	lbs/day	Report	Report	mg/l	1 x Weekly	24 Hr. Comp.
<b>Vanadium [1]</b>	50	100	lbs/day	0.28	0.56	mg/l	1 x Monthly	24 Hr. Comp.
<b>Mercury [4][5]</b>								
<b>Final Limits</b>	0.00023	0.00057	lbs/day	1.3	3.2	ng/l	6 x Yearly	Grab
<b>Interim Variance Limits</b>	Annual Average = 23.1			Report		ng/l	6 x Yearly	Grab

Table 001-2

Parameter	Quality or Concentration			Monitoring Requirements	
	Daily	Daily		Measurement	Sample
	Minimum	Maximum	Units	Frequency	Type
<b>pH</b>	6.0	9.0	s.u.	3 x Weekly	Grab



[1] ~~The permittee shall measure and report the identified metals as total recoverable metals.~~

[2] ~~See Part I.B. of the permit for the Narrative Water Quality Standards.~~

[3] ~~Hexavalent Chromium shall be measured and reported as dissolved metal. If test results from the analysis performed for total chromium reveal that the concentration is less than the limitations for hexavalent chromium, then the test for hexavalent chromium may be eliminated for that day and reported as the same concentration as total chromium for that day.~~

[4] ~~Mercury monitoring shall be conducted bi-monthly in the months of February, April, June, August, October, and December using EPA Test Method 1631, Revision E. If EPA Test Method 1631, Revision E is further revised during the term of this permit, the permittee and/or its contract laboratory is required to utilize the most current version of the method as soon as possible after approval by EPA but no later than the second monitoring event after the revision. The following EPA test methods and/or Standard Methods and associated LODs and LOQs are to be used in the analysis of the effluent samples. Alternative methods may be used if first approved by IDEM.~~

<u>Parameter</u>	<u>EPA Method</u>	<u>LOD</u>	<u>LOQ</u>
Mercury	1631, Revision E	0.2 ng/l	0.5 ng/l

[5] ~~For the term of this permit, the permittee is subject to the variance discharge limit developed in accordance with 327 IAC 5-3.5-8. The permittee applied for, and received, a variance from the water quality criterion used to establish the referenced mercury WQBEL under 327 IAC 5-3.5. Compliance with the interim discharge limit will demonstrate compliance with mercury discharge limitations of this permit for Outfall 005. **The permittee shall report both a daily maximum value and an annual average for Mercury.** The annual average value shall be calculated as the average of daily maximum values from the most recent twelve-month period. Compliance with the variance discharge limit for Mercury will be achieved when the annual average value is less than the interim discharge limit. Mercury monitoring shall be conducted bi-monthly in the months of February, April, June, August, October, and December of each year for the term of the permit using EPA Test Method 1631, Revision E. If EPA Test Method 1631, Revision E is further revised during the term of this permit, the permittee and/or its contract laboratory is required to utilize the most current version of the method as soon as possible after approval by EPA but no later than the second monitoring event after the revision. The calculating and reporting of the annual average value for mercury is only required for the months when samples are taken for mercury. See Part IV of the permit for the Mercury Pollution Prevention Management Plan Requirements.~~

[6] ~~The weekly sampling period is from Monday through Sunday.~~

B. NARRATIVE WATER QUALITY STANDARDS

1. In accordance with 327 IAC 2-1.5-8, all waters at all times and at all places, including the mixing zone, shall meet the minimum conditions of being free from substances, materials, floating debris, oil, or scum attributable to the discharge that do any of the following:
  - a. That will settle to form putrescent or otherwise objectionable deposits;
  - b. That are in amounts sufficient to be unsightly or deleterious;
  - c. That produce color, visible oil sheen, odor, or other conditions in such degree as to create a nuisance;
  - d. Which are in amounts sufficient to be acutely toxic to , or to otherwise severely injure or kill aquatic life, other animals, plants, or humans
  - e. Which are in concentrations or combinations that will cause or contribute to the growth of aquatic plants or algae to such a degree as to create a nuisance, be unsightly, or otherwise impair the designated uses.
2. At all times, all waters outside the mixing zone shall be free of substances in concentrations which on the basis of available scientific data are believed to be sufficient to injure, be chronically toxic to, or be carcinogenic, mutagenic, or teratogenic to humans, animals, aquatic life, or plants.

B. MONITORING AND REPORTING

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the discharge.

2. Discharge Monitoring Reports

- a. For parameters with monthly average water quality based effluent limitations (WQBELs) below the LOQ, daily effluent values that are less than the limit of quantitation (LOQ) may be assigned a value of zero (0).
- b. For all other parameters for which the monthly average WQBEL is equal to or greater than the LOQ, calculations that require averaging of measurements of daily values (both concentration and mass) shall use an arithmetic mean. When a daily discharge value is below the LOQ, a value of zero (0) shall be used for that value in the calculation to determine the monthly average unless otherwise specified or approved by the Commissioner.
- c. Effluent concentrations less than the LOD shall be reported on the Discharge Monitoring Report (DMR) forms as < (less than) the value of the LOD. For example, if a substance is not detected at a concentration of 0.1 µg/l, report the value as <0.1 µg/l.

- d. Effluent concentrations greater than or equal to the LOD and less than the LOQ that are reported on a DMR shall be reported as the actual value and annotated on the DMR to indicate that the value is not quantifiable.
- e. Mass discharge values which are calculated from concentrations reported as less than the value of the limit of detection shall be reported as less than the corresponding mass discharge value.
- f. Mass discharge values that are calculated from effluent concentrations greater than the limit of detection shall be reported as the calculated value.

The permittee shall submit federal and state discharge monitoring reports to the Indiana Department of Environmental Management containing results obtained during the previous month which shall be postmarked no later than the 28<sup>th</sup> day of the month following each completed monitoring period. The first report shall be submitted by the 28<sup>th</sup> day of the month following the month in which the permit becomes effective.

The Regional Administrator may request the permittee to submit monitoring reports to the Environmental Protection Agency if it is deemed necessary to assure compliance with the permit.

3. Definitions

a. Monthly Average

- (1) Mass Basis - The “monthly average” discharge means the total mass discharge during a calendar month divided by the number of days in the month that the production or commercial facility was discharging. Where less than daily samples is required by this permit, the monthly average discharge shall be determined by the summation of the measured daily mass discharges divided by the number of days during the calendar month when the measurements were made.
- (2) Concentration Basis - The “monthly average” concentration means the arithmetic average of all daily determinations of concentration made during a calendar month. When grab samples are used, the daily determination of concentration shall be the arithmetic average (weighted by flow value) of all the samples collected during the calendar day.

b. “Daily Discharge”

- (1) Mass Basis – The “daily discharge” means the total mass discharge by weight during any calendar day.
- (2) Concentration Basis – The “daily discharge” means the average concentration over the calendar day or any twenty-four (24) hour

period that reasonably represents the calendar day for the purposes of sampling.

c. “Daily Maximum”

- (1) Mass Basis – The “daily maximum” means the maximum daily discharge mass value for any calendar day.
- (2) Concentration Basis – The “daily maximum” means the maximum daily discharge value for any calendar day.
- (3) Temperature Basis – The “daily maximum” means the highest temperature value measured for any calendar day.

d. A 24-hour composite sample consists of at least twenty four (24) individual aliquots of wastewater by the grab sample method or by an automatic sampler, which are taken at approximately equally spaced time intervals for the duration of the discharge within a 24-hour period and which are combined prior to analysis

e. Concentration -The weight of any given material present in a unit volume of liquid. Unless otherwise indicated in this permit, concentration values shall be expressed in milligrams per liter (mg/l).

f. The “Regional Administrator” is defined as the Region V Administrator, U.S. EPA, located at 77 West Jackson Boulevard, Chicago, Illinois 60604.

g. The “Commissioner” is defined as the Commissioner of the Indiana Department of Environmental Management, which is located at the following address: 100 North Senate Avenue, Indianapolis, Indiana 46204.

h. “Limit of Detection or LOD” means a measurement of the concentration of a substance that can be measured and reported with ninety-nine percent (99%) confidence that the analyte concentration is greater than zero (0) for a particular analytical method and sample matrix. The LOD is equivalent to the method detection level or MDL.

i. “Limit of Quantitation or LOQ” means a measurement of the concentration of a contaminant obtained by using a specified laboratory procedure calibrated at a specified concentration above the method detection level. It is considered the lowest concentration at which a particular contaminant can be quantitatively measured using a specified laboratory procedure for monitoring of the contaminant. This term is also sometimes called limit quantification or quantification level.

j. “Method Detection Level or MDL” means the minimum concentration of an analyte (substance) that can be measured and reported with a ninety-nine percent (99%) confidence that the analyte concentration is greater than zero (0) as determined by procedure set forth in 40 CFR 136,

Appendix B. The method detection level or MDL is equivalent to the LOD.

- k. "Toxic Unit–Acute ( $TU_a$ )" is defined as  $100/LC_{50}$  where the  $LC_{50}$  is expressed as a percent effluent in the test medium of an acute whole effluent toxicity (WET) test that is statistically or graphically estimated to be lethal to fifty percent (50%) of the test organisms.
- l. "Inhibition concentration 25" or " $IC_{25}$ " means the toxicant concentration that would cause a twenty-five percent (25%) reduction in a nonquantal biological measurement for the test population. For example, the  $IC_{25}$  is the concentration of toxicant that would cause a twenty-five percent (25%) reduction in mean young per female or in growth for the test population.
- m. "Toxic Unit–Chronic ( $TU_c$ )" is defined as  $100/NOEC$  or  $100/LC_{25}$ .
- n. "No Observed Effect Concentration (NOEC)" is the highest tested concentration of an effluent or test sample whose effect is not different from the control effect, according to the statistical test used. The NOEC is usually the highest tested concentration of an effluent or toxic that causes no observable adverse effect on the test organisms (i.e., the highest concentration of toxicity at which the values for the observed responses do not statistically differ from the controls).

4. Test Procedure

The analytical and sampling methods used shall conform to the current version of 40 CFR 136. Multiple editions of Standard Methods for the Examination of Water and Wastewater are currently approved for most methods, however, 40 CFR Part 136 should be checked to ascertain if a particular method is approved for a particular analyte. The approved methods may be included in the texts listed below. However, different but equivalent methods are allowable if they receive the prior written approval of the Commissioner and the U.S. Environmental Protection Agency.

- a. Standard Methods for the Examination of Water and Wastewater 18<sup>th</sup>, 19<sup>th</sup>, or 20<sup>th</sup> Editions, 1992, 1995, or 1998, American Public Health Association, Washington, D.C. 20005.
- b. A.S.T.M. Standards, Parts 23, Water; Atmosphere Analysis 1972 American Society for Testing and Materials, Philadelphia, PA 19103.
- c. Methods for Chemical Analysis of Water and Wastes June 1974, Revised, March 1983, Environmental Protection Agency, Water Quality Office, Analytical Quality Control Laboratory, 1014 Broadway, Cincinnati, OH 45202.

5. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

- a. The exact place, date, and time of sampling;
- b. The person(s) who performed the sampling or measurements;
- c. The dates the analyses were performed;
- d. The person(s) who performed the analyses;
- e. The analytical techniques or methods used; and
- f. The results of all required analyses and measurements.

6. Additional Monitoring by Permittee

If the permittee monitors any pollutant listed in Part I.A at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of this monitoring shall be included in the calculation and reporting of the values required in the monthly Discharge Monitoring Report (DMR). Such increased frequency shall also be indicated. Other monitoring data not specifically required in this permit (such as internal process or internal waste stream data) which is collected by or for the permittee need not be submitted unless requested by the Commissioner.

7. Records Retention

All records and information resulting from the monitoring activities required by this permit, including all records of analyses performed and calibration and maintenance of instrumentation and recording from continuous monitoring instrumentation, shall be retained for a minimum of three (3) years. In cases where the original records are kept at another location, a copy of all such records shall be kept at the permitted facility. The three years shall be extended:

- a. automatically during the course of any unresolved litigation regarding the discharge of pollutants by the permittee or regarding promulgated effluent guidelines applicable to the permittee; or
- b. as requested by the Regional Administrator or the Indiana Department of Environmental Management.

D. **STORM WATER MONITORING AND NON-NUMERIC EFFLUENT LIMITS**

Within twelve (12) months of the effective date of this permit BP Products North America shall implement the non-numeric permit conditions in this Section of the permit for the entire site as it relates to storm water associated with industrial activity regardless which outfall the storm water is discharged from.

1. Control Measures and Effluent Limits

In the technology-based limits included in Part D.2-4., the term “minimize” means reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practice.

2. Control Measures

Select, design, install, and implement control measures (including best management practices) to address the selection and design considerations in Part D.3 to meet the non-numeric effluent limits in Part D.4. The selection, design, installation, and implementation of these control measures must be in accordance with good engineering practices and manufacturer’s specifications. Any deviation from the manufacturer’s specifications shall be documented. If the control measures are not achieving their intended effect in minimizing pollutant discharges, the control measures must be modified as expeditiously as practicable. Regulated stormwater discharges from the facility include stormwater run-on that commingles with stormwater discharges associated with industrial activity at the facility.

3. Control Measure Selection and Design Considerations

When selecting and designing control measures consider the following:

- a. preventing stormwater from coming into contact with polluting materials is generally more effective, and cost-effective, than trying to remove pollutants from stormwater;
- b. use of control measures in combination is more effective than use of control measures in isolation for minimizing pollutants in stormwater discharge;
- c. assessing the type and quantity of pollutants, including their potential to impact receiving water quality, is critical to designing effective control measures that will achieve the limits in this permit;
- d. minimizing impervious areas at your facility and infiltrating runoff onsite (including bioretention cells, green roofs, and pervious pavement, among other approaches), can reduce runoff and improve groundwater recharge and stream base flows in local streams, although care must be taken to avoid ground water contamination;
- e. flow can be attenuated by use of open vegetated swales and natural depressions;
- f. conservation and/or restoration of riparian buffers will help

protect streams from stormwater runoff and improve water quality; and

- g. use of treatment interceptors (e.g., swirl separators and sand filters) may be appropriate in some instances to minimize the discharge of pollutants.

4. Technology-Based Effluent Limits (BPT/BAT/BCT): Non-Numeric Effluent Limits

a. Minimize Exposure

Minimize the exposure of raw, final, or waste materials to rain, snow, snowmelt, and runoff. To the extent technologically available and economically practicable and achievable, either locate industrial materials and activities inside or protect them with storm resistant coverings in order to minimize exposure to rain, snow, snowmelt, and runoff (although significant enlargement of impervious surface area is not recommended). In minimizing exposure, pay particular attention to the following areas:

Loading and unloading areas: locate in roofed or covered areas where feasible; use grading, berming, or curbing around the loading area to divert run-on; locate the loading and unloading equipment and vehicles so that leaks are contained in existing containment and flow diversion systems.

Material storage areas: locate indoors, or in roofed or covered areas where feasible; install berms/dikes around these areas; use dry cleanup methods.

Note: Industrial materials do not need to be enclosed or covered if stormwater runoff from affected areas will not be discharged to receiving waters.

b. Good Housekeeping

Keep clean all exposed areas that are potential sources of pollutants, using such measures as sweeping at regular intervals, keeping materials orderly and labeled, and stowing materials in appropriate containers.

As part of the developed good housekeeping program, include a cleaning and maintenance program for all impervious areas of the facility where particulate matter, dust, or debris may accumulate, especially areas where material loading and unloading, storage, handling, and processing occur; and where practicable, the paving of areas where vehicle traffic or material storage occur but where vegetative or other stabilization methods are not practicable (institute a sweeping program in these areas



too). For unstabilized areas where sweeping is not practicable, consider using stormwater management devices such as sediment traps, vegetative buffer strips, filter fabric fence, sediment filtering boom, gravel outlet protection, or other equivalent measures that effectively trap or remove sediment.

c. Maintenance

Maintain all control measures which are used to achieve the effluent limits required by this permit in effective operating condition. Nonstructural control measures must also be diligently maintained (e.g., spill response supplies available, personnel appropriately trained). If control measures need to be replaced or repaired, make the necessary repairs or modifications as expeditiously as practicable.

d. Spill Prevention and Response Procedures

You must minimize the potential for leaks, spills and other releases that may be exposed to stormwater and develop plans for effective response to such spills if or when they occur. At a minimum, you must implement:

- (1) Procedures for plainly labeling containers (e.g., "Used Oil", "Spent Solvents", "Fertilizers and Pesticides", etc.) that could be susceptible to spillage or leakage to encourage proper handling and facilitate rapid response if spills or leaks occur;
- (2) Preventive measures such as barriers between material storage and traffic areas, secondary containment provisions, and procedures for material storage and handling;
- (3) Procedures for expeditiously stopping, containing, and cleaning up leaks, spills, and other releases. Employees who may cause, detect or respond to a spill or leak must be trained in these procedures and have necessary spill response equipment available. If possible, one of these individuals should be a member of your storm water pollution prevention team;
- (4) Procedures for notification of appropriate facility personnel, emergency response agencies, and regulatory agencies. State or local requirements may necessitate reporting spills or discharges to local emergency response, public health, or drinking water supply agencies. Contact information must be in locations that are readily accessible and available;
- (5) Procedures for documenting where potential spills and leaks could occur that could contribute pollutants to stormwater discharges, and the corresponding outfalls that would be affected by such spills and leaks; and

- (6) A procedure for documenting all significant spills and leaks of oil or toxic or hazardous pollutants that actually occurred at exposed areas, or that drained to a stormwater conveyance.

e. Erosion and Sediment Controls

Through the use of structural and/or non-structural control measures stabilize, and contain runoff from, exposed areas to minimize onsite erosion and sedimentation, and the resulting discharge of pollutants. Among other actions to meet this limit, place flow velocity dissipation devices at discharge locations and within outfall channels where necessary to reduce erosion and/or settle out pollutants. In selecting, designing, installing, and implementing appropriate control measures, you are encouraged to check out information from both the State and EPA websites. The following two websites are given as information sources:

<http://www.in.gov/idem/4899.htm> and  
<http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm>

f. Management of Runoff

Divert, infiltrate, reuse, contain or otherwise reduce stormwater runoff, to minimize pollutants in the discharge.

g. Salt Storage Piles or Piles Containing Salt

Enclose or cover storage piles of salt, or piles containing salt, used for deicing or other commercial or industrial purposes, including maintenance of paved surfaces. You must implement appropriate measures (e.g., good housekeeping, diversions, containment) to minimize exposure resulting from adding to or removing materials from the pile. Piles do not need to be enclosed or covered if storm water runoff from the piles is not discharged.

h. Waste, Garbage, and Floatable Debris

Ensure that waste, garbage, and floatable debris are not discharged to receiving waters by keeping exposed areas free of such materials or by intercepting them before they are discharged.

i. Employee Training

Train all employees who work in areas where industrial material or activities are exposed to stormwater, or who are responsible for implementing activities necessary to meet the conditions of this permit (e.g., inspectors, maintenance personnel), including all members of your Pollution Prevention Team. Training must cover the specific control measures used to achieve the effluent limits in this part, and monitoring, inspection, planning, reporting, and documentation requirements in other parts of this permit.

j. Non-Stormwater Discharges

You must determine if any non-stormwater discharges not authorized by an NPDES permit exist. Any non-stormwater discharges discovered must either be eliminated or modified into this permit.

The following non-stormwater discharges are authorized and should be documented when they occur in accordance with Part I.E.2.c. of the permit:

Discharges from fire-fighting activities;  
Fire Hydrant flushings;  
Potable water, including water line flushings;  
Uncontaminated condensate from air conditioners, coolers, and other compressors and from the outside storage of refrigerated gases or liquids;  
Irrigation drainage;  
Landscape watering provided all pesticides, herbicides, and fertilizer have been applied in accordance with the approved labeling;  
Pavement wash water where no detergents are used and no spills or leaks of toxic or hazardous material have occurred (unless all spilled material has been removed);  
Routine external building washdown that does not use detergents;  
Uncontaminated ground water or spring water;

k. Dust Generation and Vehicle Tracking of Industrial Materials

You must minimize generation of dust and off-site tracking of raw, final, or waste materials.

5. Annual Review

At least once every 12 months, you must review the selection, design, installation, and implementation of your control measures to determine if modifications are necessary to meet the effluent limitations in this permit. You must document the results of your review in a report that shall be retained within the SWPPP. You must also submit the report to the Industrial NPDES Permit Section on an annual basis.

6. Corrective Actions – Conditions Requiring Review

- a. If any of the following conditions occur, you must review and revise the selection, design, installation, and implementation of your control measures to ensure that the condition is eliminated and will not be repeated:

- (1) an unauthorized release or discharge (e.g., spill, leak, or discharge of non-stormwater not authorized by this NPDES permit) occurs at this facility;
  - (2) it is determined that your control measures are not stringent enough for the discharge to meet applicable water quality standards;
  - (3) it is determined in your routine facility inspection, an inspection by EPA or IDEM, comprehensive site evaluation, or the Annual Review required in Part D.5 that modifications to the control measures are necessary to meet the effluent limits in this permit or that your control measures are not being properly operated and maintained; or
  - (4) Upon written notice by the Commissioner that the control measures prove to be ineffective in controlling pollutants in storm water discharges exposed to industrial activity.
- b. If any of the following conditions occur, you must review and revise the selection, design, installation, and implementation of your control measures to determine if modifications are necessary to meet the effluent limits in this permit:
- (1) construction or a change in design, operation, or maintenance at your facility that significantly changes the nature of pollutants discharged in stormwater from your facility, or significantly increases the quantity of pollutants discharge.

7. Corrective Action Deadlines

You must document your discovery of any of the conditions listed in Part I.D.6 within thirty (30) days of making such discovery. Subsequently, within one-hundred and twenty (120) days of such discovery, you must document any corrective action(s) to be taken to eliminate or further investigate the deficiency or if no corrective action is needed, the basis for that determination. Specific documentation required within 30 and 120 days is detailed below. If you determine that changes to your control measures are necessary following your review, any modifications to your control measures must be made before the next storm event if possible, or as soon as practicable following that storm event. These time intervals are not grace periods, but schedules considered reasonable for the documenting of your findings and for making repairs and improvements. They are included in this permit to ensure that the conditions prompting the need for these repairs and improvements are not allowed to persist indefinitely.

8. Corrective Action Report

Within 30 days of a discovery of any condition listed in Part I.D.6, you must document the following information:

- a. Brief description of the condition triggering corrective action;

- b. Date condition identified; and
- c. How deficiency identified.

Within 120 days of discovery of any condition listed in Part I.D.6, you must document the following information:

- a. Summary of corrective action taken or to be taken (or, for triggering events identified in Part I.D.6.a.(3), where you determine that corrective action is not necessary, the basis for this determination)
- b. Notice of whether SWPPP modifications are required as a result of this discovery or corrective action;
- c. Date corrective action initiated; and
- d. Date corrective action completed or expected to be completed.

9. Inspections

The inspections in this part must be conducted at this facility when the facility is operating. At least once during the calendar year, the routine facility inspection in Part 9.b of this subsection must be done when a discharge is occurring.

- a. At a minimum, quarterly inspections of the stormwater management measures and stormwater run-off conveyances. The routine inspections must be performed by qualified personnel with at least one member of your storm water pollution prevention team. Inspections must be documented and either contained in, or have the on-site record keeping location referenced in, the SWP3.

As part of the routine inspections, address all potential sources of pollutants, including (if applicable) air pollution control equipment (e.g., baghouses, electrostatic precipitator, scrubbers, and cyclones), for any signs of degradation (e.g., leaks, corrosion, or improper operation) that could limit their efficiency and lead to excessive emissions. Considering monitoring air flow at inlets and outlets (or use equivalent measures) to check for leaks (e.g., particulate deposition) or blockage in ducts. Also inspect all process and material handling equipment (e.g., conveyors, cranes, and vehicles) for leaks, drips, or the potential loss of material; and material storage areas (e.g., piles, bins, or hoppers for storing coke, coal, scrap, or slag, as well as chemicals stored in tanks and drums) for signs of material loss due to wind or stormwater runoff.

Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with Part I.E.2.b of this permit and pollution prevention measures and controls identified in the plan in accordance with Part I.D.4. of this permit shall be revised as appropriate within the timeframes contained in Part I.D.7 of this permit.

- b. Routine Facility Inspection Documentation – You must document the findings of each routine facility inspection performed and maintain this documentation with your SWPPP or have the on-site record keeping location referenced in the SWPPP. At a minimum, your documentation must include:
- (1) The inspection date and time;
  - (2) The name(s) and signature(s) of the inspectors;
  - (3) Weather information and a description of any discharges occurring at the time of the inspection;
  - (4) Any previously unidentified discharges of pollutants from the site;
  - (5) Any control measures needing maintenance or repairs;
  - (6) Any failed control measures that need replacement;
  - (7) Any incidents of noncompliance observed; and
  - (8) Any additional control measures needed to comply with the permit requirements.

Any corrective action required as a result of a routine facility inspection must be performed consistent with Part I.D.6 of this permit.

c. Comprehensive Site Compliance Evaluation

Qualified personnel and at least one member of your Pollution Prevention Team shall conduct a comprehensive site compliance evaluation, at least once per year, to confirm the accuracy of the description of potential pollution sources contained in the plan, determine the effectiveness of the plan, and assess compliance with the permit. Such evaluations shall provide:

- (1) Areas contributing to a stormwater discharge associated with industrial activity shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measures, sediment and erosion control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.

- (2) A report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with the above paragraph must be documented and either contained in, or have on-site record keeping location referenced in, the SWP3 at least 3 years after the date of the evaluation. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit. The report shall be signed in accordance with the signatory requirements of Part II.C.6 of this permit.
- (3) Where compliance evaluation schedules overlap the inspections required under this part, the compliance evaluation may be conducted in place of one such inspection.

Any corrective action required as a result of a routine facility inspection must be performed consistent with Part I.D.6 of this permit.

E. STORM WATER POLLUTION PREVENTION PLAN

1. Development of Plan

Within 12 months from the effective date of this permit, the permittee is required to revise and update the current Storm Water Pollution Prevention Plan (SWP3) for the permitted facility. The plan shall at a minimum include the following:

- a. Identify potential sources of pollution, which may reasonably be expected to affect the quality of storm water discharges associated with industrial activity from the facility. Storm water associated with industrial activity (defined in 40 CFR 122.26(b)(14)) includes, but is not limited to, the discharge from any conveyance which is used for collecting and conveying storm water and which is directly related to manufacturing, processing or materials storage areas at an industrial plant;
- b. Describe practices and measure to be used in reducing the potential for pollutants to be exposed to storm water; and
- c. Assure compliance with the terms and conditions of this permit.

2. Contents

The plan shall include, at a minimum, the following items:

- a. Pollution Prevention Team -The plan shall list, by position title, the member or members of the facility organization as members of a storm water Pollution Prevention Team who are responsible for developing the

storm water pollution prevention plan (SWP3) and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each storm water pollution prevention team member. Each member of the stormwater pollution prevention team must have ready access to either an electronic or paper copy of applicable portions of this permit and your SWPPP.

- b. Description of Potential Pollutant Sources – The plan shall provide a description of areas at the site exposed to industrial activity and have a reasonable potential for storm water to be exposed to pollutants. The plan shall identify all activities and significant materials (defined in 40 CFR 122.26(b)), which may potentially be significant pollutant sources. As a minimum, the plan shall contain the following:
- (1) A soils map indicating the types of soils found on the facility property and showing the boundaries of the facility property.
  - (2) A graphical representation, such as an aerial photograph or site layout maps, drawn to an appropriate scale, which contains a legend and compass coordinates, indicating, at a minimum, the following:
    - (A) All on-site storm water drainage and discharge conveyances, which may include pipes, ditches, swales, and erosion channels, related to a storm water discharge.
    - (B) Known adjacent property drainage and discharge conveyances, if directly associated with run-off from the facility.
    - (C) All on-site and known adjacent property water bodies, including wetlands and springs.
    - (D) An outline of the drainage area for each outfall.
    - (E) An outline of the facility property, indicating directional flows, via arrows, of surface drainage patterns.
    - (F) An outline of impervious surfaces, which includes pavement and buildings, and an estimate of the impervious and pervious surface square footage for each drainage area placed in a map legend.
    - (G) On-site injection wells, as applicable.
    - (H) On-site wells used as potable water sources, as applicable.
    - (I) All existing major structural control measures to reduce pollutants in storm water run-off.



- (J) All existing and historical underground or aboveground storage tank locations, as applicable.
  - (K) All permanently designated plowed or dumped snow storage locations.
  - (L) All loading and unloading areas for solid and liquid bulk materials.
  - (M) All existing and historical outdoor storage areas for raw materials, intermediary products, final products, and waste materials. Include materials handled at the site that potentially may be exposed to precipitation or runoff, areas where deposition of particulate matter from process air emissions or losses during material-handling activities.
  - (N) All existing or historical outdoor storage areas for fuels, processing equipment, and other containerized materials, for example, in drums and totes.
  - (O) Outdoor processing areas.
  - (P) Dust or particulate generating process areas.
  - (Q) Outdoor assigned waste storage or disposal areas.
  - (R) Pesticide or herbicide application areas.
  - (S) Vehicular access roads.
  - (T) Identify any storage or disposal of wastes such as spent solvents and baths, sand, slag and dross; liquid storage tanks and drums; processing areas including pollution control equipment (e.g., baghouses); and storage areas of raw material such as coal, coke, scrap, sand, fluxes, refractories, or metal in any form. In addition, indicate where an accumulation of significant amounts of particulate matter could occur from such sources as furnace or oven emissions, losses from coal and coke handling operation, etc., and could result in a discharge of pollutants.
  - (U) The mapping of historical locations is only required if the historical locations have a reasonable potential for stormwater exposure to historical pollutants.
- (3) An area site map that indicates:
- (A) The topographic relief or similar elevations to determine

surface drainage patterns;

- (B) The facility boundaries;
- (C) All receiving waters; and
- (D) All known drinking water wells; and

Includes at a minimum, the features in clauses (A), (C), and (D) within a one-fourth (1/4) mile radius beyond the property boundaries of the facility. This map must be to scale and include a legend and compass coordinates.

- (4) A narrative description of areas that generate stormwater discharges exposed to industrial activity including descriptions for any existing or historical areas listed in subdivision 2.b.(2)(J) through (T) of this Part, and any other areas thought to generate storm water discharges exposed to industrial activity. The narrative descriptions for each identified area must include the following:

- (A) Type and typical quantity of materials present in the area.
- (B) Methods of storage, including presence of any secondary containment measures.
- (C) Any remedial actions undertaken in the area to eliminate pollutant sources or exposure of storm water to those sources. If a corrective action plan was developed, the type of remedial action and plan date shall be referenced.
- (D) Any significant release or spill history dating back a period of three (3) years from the effective date of this permit, in the identified area, for materials spilled outside of secondary containment structures and impervious surfaces in excess of their reportable quantity, including the following:
  - i. The date and type of material released or spilled.
  - ii. The estimated volume released or spilled.
  - iii. A description of the remedial actions undertaken, including disposal or treatment.

Depending on the adequacy or completeness of the remedial actions, the spill history shall be used to determine additional pollutant sources that may be exposed to storm water. In subsequent permit terms, the

history shall date back for a period of five (5) years from the date of the permit renewal application.

- (E) Where the chemicals or materials have the potential to be exposed to storm water discharges, the descriptions for each identified area must include a risk identification analysis of chemicals or materials stored or used within the area. The analysis must include the following:
  - i. Toxicity data of chemicals or materials used within the area, referencing appropriate material safety data sheet information locations.
  - ii. The frequency and typical quantity of listed chemicals or materials to be stored within the area.
  - iii. Potential ways in which storm water discharges may be exposed to listed chemicals and materials.
  - iv. The likelihood of the listed chemicals and materials to come into contact with water.
- (5) A narrative description of existing and planned management practices and measures to improve the quality of storm water run-off entering a water of the state. Descriptions must be created for existing or historical areas listed in subdivision 2.b.(2)(J) through (T) and any other areas thought to generate storm water discharges exposed to industrial activity. The description must include the following:
  - (A) Any existing or planned structural and nonstructural control practices and measures.
  - (B) Any treatment the storm water receives prior to leaving the facility property or entering a water of the state.
  - (C) The ultimate disposal of any solid or fluid wastes collected in structural control measures other than by discharge.
- (6) Describe areas that due to topography, activities, or other factors have a high potential for significant soil erosion.
- (7) Document the location of any storage piles containing salt used for deicing.
- (8) Information or other documentation required under subsection (d) of this plan.

- (9) The results of stormwater monitoring. The monitoring data must include completed field data sheets, chain-of-custody forms, and laboratory results. If the monitoring data are not placed into the facility's SWP3, the on-site location for storage of the information must be reference in the SWP3.
- c. Non-Stormwater Discharges – You must document that you have evaluated for the presence of non-storm water discharges not authorized by an NPDES permit. Any non-stormwater discharges have either been eliminated or incorporated into this permit. Documentation of non-storm water discharges shall include:
  - (1) A written non-storm water assessment, including the following:
    - (A) A certification letter stating that storm water discharges entering a water of the state have been evaluated for the presence of illicit discharges and non-stormwater contributions.
    - (B) Detergent or solvent-based washing of equipment or vehicles that would allow washwater additives to enter any storm water only drainage system shall not be allowed at this facility unless appropriately permitted under this NPDES permit.
    - (C) All interior maintenance area floor drains with the potential for maintenance fluids or other materials to enter stormwater only storm sewers must be either sealed, connected to a sanitary sewer with prior authorization, or appropriately permitted under this NPDES permit. The sealing, sanitary sewer connecting, or permitting of drains under this item must be documented in the written non-storm water assessment program.
    - (D) The certification shall include a description of the method used, the date of any testing, and the on-site drainage points that were directly observed during the test.
- d. General Requirements – The SWP3 must meet the following general requirements:
  - (1) The plan shall be certified by a qualified professional. The term qualified professional means an individual who is trained and experienced in water treatment techniques and related fields as may be demonstrated by state registration, professional certification, or completion of course work that enable the individual to make sound, professional judgments regarding storm water control/treatment and monitoring, pollutant fate and transport, and drainage planning.

- (2) The plan shall be retained at the facility and be available for review by a representative of the Commissioner upon request. IDEM may provide access to portions of your SWP3 to the public.
- (3) The plan must be revised and updated as required. Revised and updated versions of the plan must be implemented on or before three hundred sixty-five (365) days from the effective date of this permit. The Commissioner may grant an extension of this time frame based on a request by the person showing reasonable cause.
- (4) If the permittee has other written plans, required under applicable federal or state law, such as operation and maintenance, spill prevention control and countermeasures (SPCC), or risk contingency plans, which fulfill certain requirements of an SWP3, these plans may be referenced, at the permittee's discretion, in the appropriate sections of the SWP3 to meet those section requirements.
- (5) The permittee may combine the requirements of the SWP3 with another written plan if:
  - (A) The plan is retained at the facility and available for review;
  - (B) All the requirements of the SWP3 are contained within the plan; and
  - (C) A separate, labeled section is utilized in the plan for the SWP3 requirements.

F. REOPENING CLAUSES

This permit may be modified, or alternately, revoked and reissued, after public notice and opportunity for hearing:

- 1. to comply with any applicable effluent limitation or standard issued or approved under 301(b)(2)(C),(D) and (E), 304 (b)(2), and 307(a)(2) of the Clean Water Act, if the effluent limitation or standard so issued or approved:
  - a. contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
  - b. controls any pollutant not limited in the permit.
- 2. to incorporate any of the reopening clause provisions cited at 327 IAC 5-2-16.
- 3. This permit may be modified, or, alternately, revoked and reissued, to comply with any applicable standards, regulations and requirements issued or approved

under section 316(b) of the Clean Water Act, if the standards, regulations and requirements so issued or approved contains different conditions than those in this permit.

4. If a treatment technology for the removal of mercury from wastewater is identified and is determined by IDEM to be available and economically viable, then BP must install and fully operate that treatment technology as soon as possible. Within 6 months after IDEM's determination or the final disposition of any appeal of such determination, whichever is later, BP shall submit a schedule, subject to IDEM approval, for the installation and operation of the identified treatment technology that is as expeditious as possible. Any such determination shall be considered final agency action, which BP may appeal. Upon completion of 12 months of operation, IDEM should modify the permit in accordance with 327 IAC 5-3.5-8 to revise the effective effluent limits for mercury at Outfall 005.
5. When One year after the Sulfur Recovery Unit (SRU) Beavon Stretford Solution blowdown (vanadium-based technology) ~~is~~ has been replaced with non-vanadium based Shell Claus Off-gas Treatment (SCOT), the permittee may request, in writing, a review of the effluent limits and monitoring requirement for Total Vanadium at Outfall 005.

G. CHRONIC BIOMONITORING PROGRAM REQUIREMENTS

The 1977 Clean Water Act explicitly states, in Section 101(3) that it is the national policy that the discharge of toxic pollutants in toxic amounts be prohibited. In support of this policy the U.S. EPA in 1995 amended 40 CFR 136.3 (Tables IA and II) by adding testing method for measuring acute and short-term chronic toxicity of whole effluents and receiving waters. To adequately assess the character of the effluent, and the effects of the effluent on aquatic life, the permittee shall conduct Whole Effluent Toxicity Testing. Part 1 of this section describes the testing procedures, Part 2 describes the Toxicity Reduction Evaluation (TRE) which is only required if the effluent demonstrated toxicity, as described in section 1.f.

1. Whole Effluent Toxicity Tests

The permittee shall continue with their current schedule of the series of bioassay tests described below to monitor the toxicity of the discharge from Outfall 005. If toxicity is demonstrated as defined under section f. below, the permittee is required to conduct a toxicity reduction evaluation (TRE).

a. Bioassay Test Procedures and Data Analysis

- (1) All test organisms, test procedures and quality assurance criteria used shall be in accordance with the Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms; Fourth Edition Section 13, Cladoceran (*Ceriodaphnia dubia*) Survival and Reproduction Test Method 1002.0; and Section 11, Fathead Minnow (*Pimephales promelas*) Larval Survival and Growth Test

Method, (1000.0) EPA 821-R-02-013, October 2002, or most recent update.

- (2) Any circumstances not covered by the above methods, or that required deviation from the specified methods shall first be approved by the IDEM's Permit Branch.
- (3) The determination of effluent toxicity shall be made in accordance with the Data Analysis general procedures for chronic toxicity endpoints as outlined in Section 9, and in Sections 11 and 13 of the respective Test Method (1000.0 and 1002.0) of Short-term Methods of Estimating the Chronic Toxicity of Effluent and Receiving Water to Freshwater Organisms (EPA-821-R-02-013), Fourth Edition, October 2002, or most recent update.

b. Types of Bioassay Tests

- (1) The permittee shall conduct 7-day Daphnid (*Ceriodaphnia dubia*) Survival and Reproduction Test and a 7-day Fathead Minnow (*Pimephales promelas*) Larval Survival and Growth Test on samples of final effluent. All tests will be conducted on 24-hour composite samples of final effluent. All test solutions shall be renewed daily. On days three and five fresh 24-hour composite samples of the effluent collected on alternate days shall be used to renew the test solutions.
- (2) If, in any control, more than 10% of the test organisms die in 96 hours, or more than 20% of the test organisms die in 7 days, that test shall be repeated. In addition, if in the *Ceriodaphnia* test control the number of newborns produced per surviving female is less than 15, or if 60% of surviving control females have less than three broods; and in the fathead minnow test if the mean dry weight of 7-day old surviving fish in the control group is less than 0.25 mg, that test shall also be repeated. Such testing will determine whether the effluent affects the survival, reproduction, and/or growth of the test organisms. Results of all tests regardless of completion must be reported to IDEM.

c. Effluent Sample Collection and Chemical Analysis

- (1) Samples taken for the purposes of Whole Effluent Toxicity Testing will be taken at a point that is representative of the discharge, but prior to discharge. The maximum holding time for whole effluent is 36 hours for a 24 hour composite sample. Bioassay tests must be started within 36 hours after termination of the 24 hour composite sample collection. Bioassay of effluent sampling may be coordinated with other permit sampling requirements as appropriate to avoid duplication.

- (2) Chemical analysis must accompany each effluent sample taken for bioassay test, especially the sample taken for the repeat or confirmation test as outlined in section f.3. below. The analysis detailed under Part I.A. should be conducted for the effluent sample. Chemical analysis must comply with approved EPA test methods.

d. Testing Frequency and Duration

The chronic toxicity test specified in paragraph b. above shall be conducted at least once every six months for the duration of the permit. After three tests have been completed that indicate no toxicity as defined in paragraph f., the permittee may reduce the number of species tested to only include the most sensitive to the toxicity in the effluent. In the absence of toxicity with either species in the monthly testing for three (3) months in the current tests, sensitive species will be selected based on frequency and failure of whole effluent toxicity tests with one or the other species in the immediate past. If toxicity is demonstrated as defined under paragraph f., the permittee is required to conduct a toxicity reduction evaluation (TRE) as specified in Part 2 of this section.

e. Reporting

- (1) Results shall be reported according to EPA 821-R-02-013, Section 10 (Report Preparation). Two copies of the completed report for each test shall be submitted to the Data Management Section of IDEM no later than sixty days after completion of the test.
- (2) For quality control, the report shall include the results of appropriate standard reference toxic pollutant tests for chronic endpoints and historical reference toxic pollutant data with mean values and appropriate ranges for the respective test species Pimephales promelas and Ceriodaphnia dubia. Biomonitoring reports must also include copies of Chain-of-Custody Records and Laboratory raw data sheets.
- (3) Statistical procedures used to analyze and interpret toxicity data including critical values of significance used to evaluate each point of toxicity should be described and included as part of the biomonitoring report.

f. Demonstration of Toxicity

- (1) Acute toxicity will be demonstrated if the effluent is observed to have exceeded 11.0 TU<sub>a</sub> (acute toxic units) based on 100% effluent for the test organism in 48 and 96 hours for Ceriodaphnia dubia or Pimephales promelas, respectively.



TU<sub>a</sub> is defined as 100/LC<sub>50</sub>.

- (2) Chronic toxicity will be demonstrated if the effluent is observed to have exceeded 38.0 TU<sub>c</sub> (chronic toxic units) for *Ceriodaphnia dubia* or *Pimephales promelas*.
- (3) If toxicity is found in any of the tests as specified above, a confirmation toxicity test using the specified methodology and same test species shall be conducted within two weeks of the completion of the failed test to confirm results. During the sampling for any confirmation test, the permittee shall also collect and preserve sufficient effluent samples for use in a Toxicity Identification Evaluation (TIE) and/or a Toxicity Reduction Evaluation (TRE), if necessary. If any two (2) consecutive tests, including any and all confirmation tests, indicate the presence of toxicity, the permittee must begin the implementation of a Toxicity Reduction Evaluation (TRE) as described below. The whole effluent toxicity tests required above may be suspended (upon approval from IDEM) while the TRE is being conducted.

2. Toxicity Reduction Evaluation (TRE) Schedule of Compliance

The development and implementation of a TRE (including any post-TRE biomonitoring requirements) is only required if toxicity is demonstrated as defined in Part 1, section f. above.

a. Development of TRE Plan

Within 90 days of determination of toxicity, the permittee shall submit plans for an effluent toxicity reduction evaluation (TRE) to the Compliance Data Section, Office of Water Quality of the IDEM. The TRE plan shall include appropriate measures to characterize the causative toxicants and the variability associated with these compounds. Guidance on conducting effluent toxicity reduction evaluations is available from EPA and from the EPA publications list below:

(1) Methods for Aquatic Toxicity Identification Evaluations:

Phase I Toxicity Characteristics Procedures, Second Edition (EPA/600/6-91/003, February 1991).

Phase II Toxicity Identification Procedures (EPA 600/R-92/080), September 1993.

Phase III Toxicity Confirmation Procedures (EPA 600/R-92/081), September 1993.

- (2) Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I. EPA/600/6-91/005F, May 1992.
- (3) Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (TREs), (EPA/600/2-88/070), April 1989.
- (4) Toxicity Reduction Evaluation Protocol for Municipal Wastewater Treatments Plants (EPA/833-B-99-022) August 1999.

b. Conduct the Plan

Within 30 days after the submission of the TRE plan to IDEM, the permittee must initiate an effluent TRE consistent with the TRE plan. Progress reports shall be submitted every 90 days to the Compliance Data Section, Office of Water Quality of the IDEM beginning 90 days after initiation of the TRE study.

c. Reporting

Within 90 days of the TRE study completion, the permittee shall submit to the Compliance Data Section, Office of Water Quality of the IDEM, the final study results and a schedule for reducing the toxicity to acceptable levels through control of the toxicant source or treatment of whole effluent.

d. Compliance Date

The permittee shall complete items a, b, and c from Section 2 above and reduce the toxicity to acceptable levels as soon as possible, but no later than three years after the date of determination of toxicity.

e. Post-TRE Biomonitoring Requirements (Only Required After Completion of a TRE)

After the TRE, the permittee shall conduct monthly toxicity tests with 2 or more species for a period of three months. Should three consecutive monthly tests demonstrate no toxicity, the permittee may reduce the number of species tested to only include the species demonstrated to be most sensitive to the toxicity in the effluent, (see section 1.d. above for more specifics on this topic), and conduct chronic tests quarterly for the duration of the permit.

If toxicity is demonstrated, as defined in paragraph 1.f. above, after the initial three month period, testing must revert to a TRE as described in Part 2 (TRE) above.

| H. DIFFUSER ~~MAINTENANCE AND~~ MONITORING REQUIREMENTS

1. Biological Survey

- a. During the first, third and fifth year of the permit, BP Products North America shall conduct a survey of the aquatic life found within a 200 feet radius of the diffuser. The results of this survey shall be submitted to IDEM's Office of Water Management, Industrial NPDES Permits Section.

PART II

STANDARD CONDITIONS FOR NPDES PERMITS

A. GENERAL CONDITIONS

1. Duty to Comply

The permittee shall comply with all conditions of this permit in accordance with 327 IAC 5-2-8(1). Any permit noncompliance constitutes a violation of the Clean Water Act, and the Environmental Management Act, and is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

2. Penalties for Violations of Permit Conditions

Pursuant to IC 13-30-4, a person who violates any provision of this permit, the water pollution control laws; environmental management laws; or a rule or standard adopted by the Water Pollution Control Board is liable for a civil penalty not to exceed twenty-five thousand dollars (\$25,000) per day of any violation. Pursuant to IC 13-30-5, a person who obstructs, delays, resists, prevents, or interferes with (1) the department; or (2) the department's personnel or designated agent in the performance of an inspection or investigation commits a class C infraction.

Pursuant to IC 13-30-6, a person who intentionally, knowingly, or recklessly violates any provision of this permit, the water pollution control laws or a rule or standard adopted by the Water Pollution Control Board commits a class D felony punishable by the term of imprisonment established under IC 35-50-2-7(a) (up to one year), and/or by fine of not less than five thousand dollars (\$5,000) and not more than fifty thousand dollars (\$50,000) per day of violation. A person convicted for a violation committed after a first conviction of such person under this provision is subject to a fine of not more than one hundred thousand (\$100,000) per day of violation, or by imprisonment for not more than two (2) years, or both.

3. Duty to Mitigate

Pursuant to 327 IAC 5-2-8(3), the permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit.

4. Permit Modification, Revocation, and Reissuance, and Termination

In accordance with 327 IAC 5-2-8(4) and 327 IAC 5-2-16(b), this permit may be modified, revoked and reissued, or terminated for cause, including, but not limited to, the following:

- a. Violation of any term or condition of this permit;
- b. Failure of the permittee to disclose fully all relevant facts or misrepresentation of any relevant facts by the permittee in the application or during the permit issuance process; or
- c. A change in any condition that requires either a temporary or a permanent reduction or elimination of any discharge controlled by this permit.

The filing of a request by the permittee for a permit modification, revocation, and reissuance, or termination, or any information specified in Part II.A.5 of this permit does not stay or suspend any permit term or condition.

The permittee shall submit any information that the permittee knows or has reason to believe would constitute cause for modification or revocation and reissuance of the permit at the earliest time such information becomes available, such as plans for physical alterations or additions to the permitted facility and Ineos and NiSource Whiting Clean Energy that:

- (1) could significantly change the nature of, or increase the quantity of, pollutants discharged; or
- (2) the commissioner may request to evaluate whether such cause exists.

5. Duty to Provide Information Requested by the Commissioner

Pursuant to 40 CFR 122.41(h), the permittee shall furnish to the Commissioner, within reasonable time, any information which the Commissioner may request to determine compliance with this permit. Pursuant to 327 IAC 5-1-3, the permittee shall furnish to the Commissioner any reports or data necessary to carry out the provisions of 327 IAC 5 in such a manner as the Commissioner may reasonably prescribe.

6. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a renewal of this permit in accordance with 327 IAC 5-2-8(2). It is the permittee's responsibility to obtain and submit the application. Pursuant to 327 IAC 5-3-2(a)(2), the application must be submitted at least 180 days in advance of the expiration date of this permit. The Commissioner may grant permission to submit an application less than 180 days in advance of the expiration date of this permit but no later than the permit expiration date.

7. Permit Transfer

In accordance with 327 IAC 5-2-6(c), this permit may be transferred to another person by the permit, without modification or revocation and reissuance being required under 327 IAC 5-2-16(c)(1) or 16(e)(4), if the following occurs:

- a. The current permittee notified the commissioner at least thirty (30) days in advanced of the proposed transfer date.
- b. A written agreement containing a specific date for transfer of permit responsibility and coverage between the current permittee and the transferee (including acknowledgement that the existing permittee is liable for violations up to the date, and that the transferee is liable for violations from that date on) is submitted to the commissioner.
- c. The transferee certifies in writing to the commissioner their intent to operate the facility without making such material and substantial alterations or additions to the facility as would significantly change the nature or quantities of pollutants discharged and thus constitute cause for permit modification under 327 IAC 5-2-16(d). However, the commissioner may allow a temporary transfer of the permit without the permit modification for good cause, e.g., to enable the transferee to purge and empty the facility's treatment system prior to making alterations, despite the transferee's intent to make such material and substantial alterations or additions to the facility.
- d. The commissioner, within thirty (30) days, does not notify the current permittee and the transferee of the intent to modify, revoke and reissue, or terminate the permit and to require that a new application be filed rather than agreeing to the transfer of the permit.

The Commissioner may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Clean Water Act.

8. Toxic Pollutants

If any applicable effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Clean Water Act for a toxic pollutant injurious to human health and that standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition in accordance with 327 IAC 5-2-8(5). Effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants injurious to human health are effective and must be complied with, if applicable to the permittee, within the time provided in the implementing regulations, even absent permit modification.

9. Operator Certification

The permittee shall have the wastewater treatment facilities under supervision of an operator certified by the Commissioner as required by IC 13-18-11 and 327 IAC 5-22.

10. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject to under Section 311 of the Clean Water Act.

11. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal actions or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any application state law or regulation under authority preserved by Section 510 of the Clean Water Act.

12. Property Rights

Pursuant to 327 IAC 5-2-8(6) and 327 IAC 5-2-5(b), the issuance of this permit does not convey any property right of any sort or any exclusive privileges, nor does it authorize any injury to persons or private property or an invasion of rights, any infringement of federal, state, or local laws or regulations. The issuance of the permit also does not preempt any duty to obtain any other state, or local assent required by law for the discharge or for the construction or operation of the facility from which a discharge is made.

13. Severability

In accordance with 327 IAC 1-1-3, the provisions of this permit are severable and, if any provision of this permit or the application of any provision of this permit to any person or circumstances is held invalid, the application or such provision to other circumstances and the remainder of this permit shall not be affected thereby if such provisions can be given effect without the invalid provision or application.

14. Inspection and Entry

Pursuant to 327 IAC 5-2-8(7), the permittee shall allow the Commissioner, or an authorized representative (including an authorized contractor acting as a representative of the commissioner), upon the presentation of credentials and other documents as may be required by law, to:

- a. Enter upon the permittee's premises where a point source is located, or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

- c. Inspect, at reasonable times:
  - (1) any monitoring equipment or method;
  - (2) any collection, treatment, pollution management, or discharge facilities; or
  - (3) practices required or otherwise regulated under the permit.
- d. Sample or monitor at reasonable time, any discharge of pollutants or internal wastestream (where necessary to ascertain the nature of a discharge of pollutants) for the purpose of evaluating compliance with this permit or as otherwise authorized.

15. Construction Permit

In accordance with IC 13-14-8-11.6, a discharger is not required to obtain a state permit for the modification or construction of a water pollution treatment or control facility if the discharger has an effective NPDES permit.

If the discharger modifies their existing water pollution treatment or control facility or constructs a new water pollution treatment or control facility for the treatment or control of any new influent pollutant or increased levels of any existing pollutant, then, within thirty (30) days after commencement of operation, the discharger shall file with the Department of Environment Management a notice of installation for the additional pollutant control equipment and a design summary of any modifications.

The notice and design summary shall be sent to the Office of Water Quality - Mail Code 65-42, Industrial NPDES Permits Section, 100 North Senate Avenue, Indianapolis, IN 46204-2251.

16. New or Increased Discharge of Pollutants

This permit prohibits the permittee from undertaking any action that would result in a new or increased discharge of a bioaccumulative chemical of concern (BCC) or a new or increased permit limit for a regulated pollutant that is not a BCC into Lake George Channel of the Indiana Harbor Ship Canal unless one of the following is completed prior to the commencement of the action:

- a. Information is submitted to the Commissioner demonstrating that the proposed new or increased discharges will not cause a significant lowering of water quality as defined under 327 IAC 2-1.3-2(50). Upon review of this information, the Commissioner may request additional information or may determine that the proposed increase is a significant lowering of water quality and require the submittal of an antidegradation demonstration.
- b. An antidegradation demonstration is submitted to and approved by the Commissioner in accordance with 327 IAC 2-1.3-5 and 327 IAC 2-1.3-6.



17. New or Increased Discharge of Pollutants into Lake Michigan

This permit prohibits the permittee from undertaking any action that would result in the following in Lake Michigan:

- a. A new or increased discharge of a bioaccumulative chemical of concern (BCC), other than mercury.
- b. A new or increased discharge of mercury or a new or increased permit limit for a regulated pollutant that is not a BCC unless one of the following is completed prior to the commencement of the action:
  - (1) Information is submitted to the Commissioner demonstrating that the proposed new or increased discharges will not cause a significant lowering of water quality as defined under 327 IAC 2-1.3-2(50). Upon review of this information, the Commissioner may request additional information or may determine that the proposed increase is a significant lowering of water quality and require the permittee to do the following:
    - (i) Submit an antidegradation demonstration in accordance with 327 IAC 2-1.3-5; and
    - (ii) Implement or fund a water quality improvement project in the watershed of the OSRW that results in an overall improvement in water quality in the OSRW in accordance with 327 IAC 2-1.3-7.
  - (2) An antidegradation demonstration is submitted to and approved by the Commissioner in accordance with 327 IAC 2-1.3-5 and 327 IAC 2-1.3-6 and the permittee implements or funds a water quality improvement project in the watershed of the OSRW that results in an overall improvement in water quality in the OSRW in accordance with 327 IAC 2-1.3-7.

B. MANAGEMENT REQUIREMENTS

1. Proper Operation and Maintenance

The permittee shall at all times maintain in good working order and efficiently operate all facilities and systems (and related appurtenances) for the collection and treatment which are installed or used by the permittee and which are necessary for achieving compliance with the terms and conditions of this permit in accordance with 327 IAC 5-2-8(8).

2. Bypass of Treatment Facilities

Pursuant to 327 IAC 5-2-8(11):

- a. Terms as defined in 327 IAC 5-2-8(11)(A):
  - (1) “Bypass” means the intentional diversion of a waste stream from any portion of a treatment facility.

- (2) “Severe property damage” means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
- b. The permittee may allow a bypass to occur that does not exceed any effluent limitations contained in this permit, but only if it is essential maintenance to assure efficient operation. The permittee is not required to notify the Commissioner about bypasses that meet this definition. This provision will be strictly construed. These bypasses are not subject to the provisions of Part II.B.2.d and e of this permit.
- c. Bypasses, as defined in (a) above, are prohibited, and the Commissioner may take enforcement action against a permittee for bypass, unless the following occur:
  - (1) The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage, as defined above;
  - (2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance; and
  - (3) The permittee submitted notices as required under Part II.B.2.e; or
  - (4) The condition under Part II.B.2.b above is met.
- d. Bypasses that result in death or acute injury or illness to animals or humans must be reported in accordance with the “Spill Response and Reporting Requirements” in 327 IAC 2-6.1.
- e. The permittee must provide the Commissioner with the following notice:
  - (1) If the permittee knows or should have known in advance of the need for a bypass (anticipated bypass), it shall submit prior written notice. If possible, such notice shall be provided at least ten (10) days before the date of the bypass for approval by the Commissioner.
  - (2) The permittee shall orally report an unanticipated bypass that exceeds any limitations in the permit within 24 hours of becoming aware of the bypass noncompliance. The permittee

must also provide a written report within five (5) days of the time the permittee becomes aware of the bypass noncompliance. The written report must contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times; if the cause of noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate and prevent recurrence of the bypass event.

- (3) The permittee shall provide at least 10-day advance written notice to IDEM if it anticipates the need to discharge from Outfall 001 due to the need to perform emergency repairs or replacements to the diffuser system to Outfall 005.
- f. The Commissioner may approve an anticipated bypass, after considering its adverse effects, if the Commissioner determines that it will meet the conditions listed above in Part II.B.2.c. The Commissioner may impose any conditions determined to be necessary to minimize any adverse effects.

3. Upset Conditions

Pursuant to 327 IAC 5-2-8(12):

- a. “Upset” means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
- b. An upset shall constitute an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of Paragraph c of this section, are met.
- c. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence, that:
  - (1) An upset occurred and the permittee has identified the specific cause(s) of the upset;
  - (2) The permitted facility was at the time being operated in compliance with proper operation and maintenance procedures; and
  - (3) The permittee complied with any remedial measures required under Part II.A.3;

- (4) The permittee submitted notice of the upset as required in the “Twenty-Four Hour Reporting Requirements,” Part II.C.3, or 327 IAC 2-6.1, whichever is applicable.

- d. In accordance with 40 CFR 122.41(n)(4), In any enforcement proceedings the permittee seeking to establish the occurrence of an upset has the burden of proof.

4. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed from or resulting from treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering waters of the State and to be in compliance with all Indiana statutes and regulations relative to liquid and/or solid waste disposal.

C. REPORTING REQUIREMENTS

1. Planned Changes in Facility or Discharge

Pursuant to 327 IAC 5-2-8(10)(F), the permittee shall give notice to the Commissioner as soon as possible of any planned alterations or additions to the facility. In this context, permit facility refers to a point source discharge, not a wastewater treatment facility. Notice is required only when either of the following applies:

- a. The alteration or addition may meet one of the criteria for determining whether the facility is a new source as outlined in 327 IAC 5-1.5.
- b. The alteration or addition could significantly change the nature of, or increase the quantity of, pollutants discharge. This notification applies to pollutants that are subject either to effluent limitations in Part I.A. or to notification requirements in Part II.C.9. of this permit.

Following such notice, the permit may be modified to revise existing pollutant limitations and/or to specify and limit any pollutants not previously limited.

2. Monitoring Reports

Pursuant to 327 IAC 5-2-8(9) and 327 IAC 5-2-13 through 15, monitoring results shall be reported at the intervals and in the form specified in “Discharge Monitoring Reports”, Part I.C.2.

3. Twenty-Four Hour Reporting Requirements

Pursuant to 327 IAC 5-2-8(10)(C), the permittee shall orally report to the Commissioner information on the following types of noncompliance within 24 hours from the time permittee becomes aware of such noncompliance. If the noncompliance meets the requirements of item b (Part II.C.3.b) or 327 IAC 2-6.1, then the report shall be made within those prescribed time frames.

- a. Any unanticipated bypass which exceeds any effluent limitation in the permit;
- b. Any noncompliance which may pose a significant danger to human health or the environment. Reports under this item shall be made as soon as the permittee becomes aware of the non-complying circumstances;
- c. Any upset that causes an exceedance of any effluent limitation in the permit;
- d. Violation of a maximum daily discharge limitation for any of the following toxic pollutants: Phenolics, Total Chromium and Hexavalent Chromium.

The permittee can make the oral reports by calling (317)232-8670 during regular business hours or by calling (317) 233-7745 ((888)233-7745 toll free in Indiana) during non-business hours. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and, if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce and eliminate the noncompliance and prevent its recurrence. The Commissioner may waive the written report on a case-by-case basis if the oral report has been received within 24 hours. Alternatively the permittee may submit a "Bypass Fax Report" or a "Noncompliance Notification Report", whichever is appropriate, to IDEM at (317) 232-8637. If a complete fax submittal is sent within 24 hours of the time that the permittee became aware of the occurrence, then the fax report will satisfy both the oral and written reporting requirements.

4. Other Noncompliance

Pursuant to 327 IAC 5-2-8(10)(D), the permittee shall report any instance of noncompliance not reported under the "Twenty-Four Hour Reporting Requirements" in Part II.C.3, or any compliance schedules at the time the pertinent Discharge Monitoring Report is submitted. The report shall contain the information specified in Part II.C.3;

The permittee shall also give advance notice to the Commissioner of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements; and

All reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

5. Other Information

Pursuant to 327 IAC 5-2-8(10)(E), where the permittee becomes aware of a failure to submit any relevant facts or submitted incorrect information in a permit

application or in any report, the permittee shall promptly submit such facts or corrected information to the Commissioner.

6. Signatory Requirements

Pursuant to 327 IAC 5-2-22 and 327 IAC 5-2-8(14):

- a. All reports required by the permit and other information requested by the Commissioner shall be signed and certified by a person described below or by a duly authorized representative of that person:
  - (1) For a corporation: by a responsible corporate officer defined as a president, secretary, treasurer, any vice-president of the corporation in charge of a principal business function, or any other person who performs similar policymaking or decision making functions for the corporation or the manager of one or more manufacturing, production or operating facilities employing more than two hundred fifty (250) persons or having the gross annual sales or expenditures exceeding twenty-five million dollars (\$25,000,000) (in second quarter 1980 dollars), if authority to sign documents has been assigned to the manager in accordance with corporate procedures.
  - (2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or
  - (3) For a Federal, State, or local government body or any agency or political subdivision thereof: by either a principal executive officer or ranking elected official.
- b. A person is duly authorized representative only if:
  - (1) The authorization is made in writing by a person described above.
  - (2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or a position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and
  - (3) The authorization is submitted to the Commissioner.
- c. Certification. Any person signing a document identified under Part II.C.7., shall make the following certification:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and

evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering in the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

7. Availability of Reports

Except for data determined to be confidential under 327 IAC 12.1, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Indiana Department of Environmental Management and the Regional Administrator. As required by the Clean Water Act, permit applications, permits, and effluent data shall not be considered confidential.

8. Penalties for Falsification of Reports

IC 13-30 and 327 IAC 5-2-8(14) provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance, shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 180 days per violation, or by both.

9. Changes in Discharge of Toxic Substances

Pursuant to 327 IAC 5-2-9, the permittee shall notify the Commissioner as soon as it knows or has reason to believe:

- a. That any activity has occurred or will occur which would result in the discharge of any pollutant identified as toxic, pursuant to Section 307(a) of the Clean Water Act which is not limited in the permit, if that discharge will exceed the highest of the following “notification levels.”
  - (1) One hundred micrograms per liter (100µg/l);
  - (2) Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500µg/l) for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and one milligram per liter (1mg/l) for antimony;
  - (3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7).
- b. That it has begun or expects to begin to use or manufacture, as an intermediate or final product or byproduct, any toxic pollutant which was not reported in the permit application under 40 CFR 122.21(g)(9).

PART III  
Additional Requirements

A. Thermal Effluent Requirements

Based on a favorable thermal demonstration study submitted by BP Products North America on June 19, 2012, the alternate thermal effluent limitations of  $1.7 \times 10^9$  BTUs/Hour are being approved for continued use at Outfall 002. ~~This variance renewal shall be valid as long as there is no significant increase in the thermal discharge or heat rejection rate from this facility.~~

B. Intake Structures

The 316(b) study for this facility was approved by the U.S. EPA in June of 1975. ~~This approval is considered valid and effective and shall remain in effect until significant changes are made to the intake structure or until new federal regulations which regulate the intake structure at this facility require a new evaluation of this approval.~~ BP Whiting Business Unit (WBU) provided IDEM a description of the CWIS dated 29 August 2012 to conduct a best professional judgment (BPJ) evaluation of the CWIS to establish that the CWIS is equivalent to the best technology available (BTA).

Based on available information; IDEM has made a Best Technology Available (BTA) determination that the existing cooling water intake structures represent best technology available to minimize adverse environmental impact in accordance with Section 316(b) of the federal Clean Water Act (33 U.S.C. section 1326) at this time.

This determination is based on Best Professional Judgment (BPJ) and will be reassessed at the next permit reissuance to ensure that the CWISs continue to meet the requirements of Section 316(b) of the federal Clean Water Act (33 U.S.C. section 1326). IDEM recognizes that, for reassessment of its BTA determination during the next permit renewal, fish return alternatives must be evaluated. The permittee shall comply with the following requirements:

1. At all times properly operate and maintain the cooling water intake structure equipment.
2. The permittee shall submit a fish impingement and mortality minimization alternatives evaluation and implementation plan to IDEM for review and approval. The evaluation report and implementation plan for any operational changes and/or facility modification shall be submitted to IDEM as soon as feasible, but at least 270 days prior to the expiration date of this permit. The fish mortality minimization alternatives evaluation shall include the feasibility of installing a fish return to Lake Michigan.



3. Inform IDEM of any proposed changes to the CWIS or proposed changes to operations at the facility that affect the information taken into account in the current BTA evaluation.
4. Submit all required reports to the IDEM, Office of Water Quality, Permits Branch

**C. Intake Water Interruption**

In the event that the intake water supply is interrupted and to prevent equipment damage or plant shutdown, firewater or recycle (treated process) water may be substituted for non-contact cooling purposes until the cause of the interruption can be expeditiously corrected. The permittee shall notify the IDEM, Office of Water Quality, Compliance Evaluation Section upon such occurrence and its expected duration.

**Part IV  
Streamlined Mercury Variance**

**A. Term of SMV**

The SMV and the interim discharge limitations in Part I.A.1, will remain in effect until the NPDES permit expires under IC 13-14-8-9. Pursuant to IC 13-14-8-9(d), when the NPDES permit is extended under IC 13-15-3-6 (administratively extended), the SMV will remain in effect as long as the NPDES permit requirements affected by the SMV are in effect.

**B. Annual Reports**

The permittee shall submit an annual report to IDEM that describes the permittee's progress toward fulfilling each PMPP requirement, the results of all mercury monitoring within the previous year, and the steps taken to implement the planned activities outlined under the PMPP. The annual report must also include documentation of chemical and equipment replacements, staff education programs, and other initiatives regarding mercury awareness or reductions. The complete inventory and complete evaluation required by the PMPP may be submitted as part of the annual report. Submittal of the annual report will be due within twenty-one (21) days following the anniversary of the effective date of the modified NPDES permit as identified on Page 1. Annual Reports should be submitted to the Office of Water Quality, Mail Code 65-42, Industrial Permits Section, 100 North Senate Avenue, Indianapolis, Indiana 46204 2251.

**C. SMV Renewal**

As authorized under 327 IAC 5-3.5-7(a)(1), the permittee may apply for the renewal of an SMV at any time within 180 days prior to the expiration of the NPDES permit. In accordance with 327 IAC 5-3.5-7(c), an application for renewal of the SMV must contain the following:

- All information required for an initial SMV application under 327 IAC 5-3.5-4, including revisions to the PMPP, if applicable.
- A report on implementation of each provision of the PMPP.

- An analysis of the mercury concentrations determined through sampling at the facility's locations that have mercury monitoring requirements in the NPDES permit for the two (2) year period prior to the SMV renewal application.
- A proposed alternative mercury discharge limit, if appropriate, to be evaluated by the department according to 327 IAC 5-3.5-8(b) based on the most recent two (2) years of representative sampling information from the facility.

Renewal of the SMV is subject to a demonstration showing that PMPP implementation has achieved progress toward the goal of reducing mercury from the discharge.

#### D. Pollutant Minimization Program Plan (PMPP) and Interim Effluent Limit

The PMPP is a requirement of the SMV application and is defined in 327 IAC 5-3.5-3(4) as the plan for development and implementation of Pollutant Minimization Program (PMP). The PMPP is defined in 327 IAC 5-3.5-3(3) as the program developed by an SMV applicant to identify and minimize the discharge of mercury into the environment. PMPP requirements (including the enforceable parts of the PMPP) are outlined in 327 IAC 5-3.5-9. In accordance with 327 IAC 5-3.5-6, the permittee's PMPP is appended with this Attachment.

The following PMPP developed by BP Products North America, LLC in accordance with 327 IAC 5-3.5-9 of the Streamlined Mercury Variance Rule is hereby incorporated into this permit as follows:

1. ~~Within 6 months from the effective date of the permit modification to incorporate the SMV requirements (August 17, 2012), BP will conduct a review of the reports from the Purdue/Argonne pilot study conducted at the Whiting Refinery and submit a report to IDEM summarizing recommendations for further evaluation steps to reduce the discharge of Mercury from the Whiting Refinery.~~

~~If a particular mercury removal technology is recommended for an additional pilot demonstration after completion of the Purdue/Argonne pilot studies conducted at the Whiting Refinery, BP Whiting would commence a pilot demonstration unit to further review the recommended technology(ies) according to the following schedule:~~

- ~~a. ———Begin~~begin operation of such pilot demonstration unit of similar size as the Purdue/Argonne pilot within eighteen (18) months of the NPDES permit modification incorporating the SMV (August 17, 2013).
- b. Complete the pilot demonstration and submit a final report to IDEM within thirty-six (36) months of the NPDES permit modification incorporating the SMV (February 17, 2015).

The pilot demonstration evaluation will include at least the following: performance under varying weather and process conditions, evaluation of options for waste streams, and reliability, operability, and feasibility. The report to IDEM shall summarize the results of the pilot demonstration, including reliability and feasibility of the piloted mercury removal technology, and recommendations for the next phase of review.

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2. Within 18 months from the start up of the Brine Treatment Unit and Final Filters, BP will complete an evaluation of the mercury reduction of the new Brine Treatment unit and final filters being installed at the Whiting Refinery and submit a final report to IDEM. The evaluation will include at least the following: performance under varying weather and process conditions, evaluation of option for waste streams, and reliability, operability and feasibility. The report to IDEM shall summarize the results of the evaluation, including reliability and feasibility of the mercury removal, and recommendation for the next phase of the review
3. Within 6 months from the effective date of the permit modification to incorporate the SMV requirements (August 17, 2012), BP will review the existing purchasing policies and practices to ensure the disclosure of mercury content as part of the purchasing criteria. BP will complete and document the review of the existing procedures and develop any new language required to incorporate the objective of restricting the purchase and use of mercury containing chemicals and equipment where there is a risk of contributing mercury to the wastewater discharge.
4. Within 12 months from the effective date of the permit modification to incorporate the SMV requirements (February 17, 2013), BP will educate all BP Whiting Refinery personnel about the mercury related purchasing policies, recycling practices, proper handling and disposal techniques, spill containment procedures, and other pollution prevention measures designed to reduce the potential for mercury to enter the wastewater treatment plant. BP will develop a computer-based training module or Virtual Training Administrator (VTA) or other training methods as appropriate for the training of personnel.
5. Within 12 months from the effective date of the permit modification to incorporate the SMV requirements (February 17, 2013), BP will review the current recycling program for opportunities and improvements for the mercury containing equipment and update the practices and procedures to incorporate these opportunities as needed and as feasible.
6. Within 18 months from the effective date of the permit modification to incorporate the SMV requirements (August 17, 2013), BP will complete the review and identification of mercury containing chemicals or additives that are used in the operations and processes which have the potential risk of entering the process wastewater sewer system.
7. Within 18 months from the effective date of the permit modification to incorporate the SMV requirements (August 17, 2013), BP will compile a complete inventory of all equipment containing mercury that have the potential risk of charging mercury to the process wastewater sewer system, including the estimated mercury content from the vendor and supplier information as well as location of such equipment.
8. Within 24 months from the effective date of the permit modification to incorporate the SMV requirements (February 17, 2014), BP will perform an assessment of the mercury content of the sediment in the main process sewer legs that are part of the current sewer cleaning program.

9. Within 24 months from the effective date of the permit modification to incorporate the SMV requirements (February 17, 2014), BP will complete an assessment of identified process unit wastewater discharges from sources within the refinery that may contain mercury at detection levels utilizing process knowledge, previous analysis or with new analysis if warranted.
10. Within 24 months from the effective date of the permit modification to incorporate the SMV requirements (February 17, 2014), BP will develop a prioritized schedule for the cleaning of the sewers incorporating any significant impacts found from the results of the sewer system characterization study. The sediment and mercury removal progress will be reported in the annual reports.
11. Within 36 months from the effective date of the permit modification to incorporate the SMV requirements (February 17, 2015), BP will complete the detailed inventory list of process chemicals or additives containing mercury, equipment containing mercury and process discharges that contain mercury
12. Within 36 months from the effective date of the permit modification to incorporate the SMV requirements (February 17, 2015), BP will develop a procedure utilizing a ranking method to identify the high-risk equipment and process chemicals for mercury exposure and alternatives that are feasible for their replacement. Then mercury containing chemicals and equipment will be replaced or substituted with chemicals or equipment containing less mercury or no mercury.